

REMARKS

Claims 1-17 are pending.

Information Disclosure Statement

Four pages of references were submitted in an Information Disclosure Statement dated January 23, 2004. The Examiner, probably confused by the inconsistent page numbering, has only considered and initialed the second and third pages of the 1449 form. The first and fourth pages remain unacknowledged. The Information Disclosure Statement including the unacknowledged pages is attached herewith for the Examiner's convenience. It is respectfully requested that the references listed in the outstanding PTO Form 1449 be considered and initialed and returned with the next Action.

In addition a Supplemental Information Disclosure Statement was submitted on August 6, 2007. Consideration of the cited reference(s) and entering into the file records are respectfully requested.

Oath/declaration

The Examiner has asserted that the inventor's declaration is defective for failing to state that the Declarant "acknowledges the duty to disclose to the Office all information known to the person to be material to patentability as defined in 37 CFR 1.56."

It is believed such language is in the copy of the declaration for a parent application filed with the present continuation application. Indeed, paragraph 3 of the declaration states:

"3. I acknowledge my duty to disclose to the Office all information known to me to be material to patentability of this application, in accordance with 37 C.F.R. Section 1.56, which is defined on the attached page."

Withdrawal of the objection to the Oath is respectfully requested.

Specification

The specification has been amended to make it clear that the sheath 28 is shown in Figure 5 rather than in Figure 3. The amendments are being made in conformity with that made in one of the parent applications, serial number 08/476,122 now US 5,857,464. No new matter is being introduced.

Claim Rejections Under 35 U.S.C. §112

Claims 1-10 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is being amended to insert "with" after the word "wall".

Claim Rejections Under 35 U.S.C. §102

Claims 1, 5 and 7-9 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 3,734,083 to Kolin ("Kolin '083").

Applicant's invention is directed to a catheter for injecting fluid into the body. In order to do so efficiently, the discharge opening at the distal end is allowed to be opened wide by an open-slit structure. This provides a discharge with very low impedance. However, these catheters are typically guided into position by a guide wire. After the guide wire is withdrawn, there is a possibility of the discharge coming out of the distal tip where the guide wire used to thread through. A combination of a valve and flow resistors helps to increase the flow impedance out of the tip.

The feature of flow resistors at the distal portion that resist axial flow from the passageway out of the distal opening without restricting a passage of a removable guide wire are not taught nor suggested by any of the cited prior art references. A distal opening is required for the catheter to thread over a guide wire to reach a destined location in the heart chamber. Thereafter, the guide wire is withdrawn to allow the passageway to pass contrast fluid. Flow resistors are one aspect of the present invention to maximize discharge of fluid in the slits portion and to minimize discharge in the distal opening. If there is too much discharge through the distal opening, a resulting jet will likely cause a recoil and a shifting of the catheter. More seriously, it can cause damage to the endothelium as well as inducing premature ventricular contractions and ventricular tachycardias or other arrhythmias.

Kolin '083 does not teach use of axial flow resistor to impede axial flow of discharge through the distal opening. In Kolin '083, the electrodes 26 and 28 must not act as flow restrictors because the device of Kolin is designed to measure the flow of blood (see Figure 2

and Column 4, lines 5-13 of Kolin '083). Instead they should disturb the flow as little as possible. In order to eliminate blood flow resistance, Kolin's electrodes 26 and 28 are flat, and Kolin's wires 31 and 32 connecting them are also fine and unobtrusive (see Column 3, lines 58-60 of Kolin '083). If Kolin's electrodes acted as flow resisting means, as the Examiner alleges, Kolin's device would not be able to measure the blood flow correctly. Those skilled in the art would not have been suggested by Kolin's electrode to have restricting function against its purpose of measuring blood flow precisely. Therefore Kolin '083 could not inherently teach or suggest the resisting means as recited in the amended independent claims 1 and 7.

Independent claims 1 and 7 are therefore believed allowable. Claims 5 and 8-9 being dependent on either claims 1 and 7 are therefore believed to be allowable.

Reconsideration is respectfully requested of the rejection of claims 1, 5 and 7-9 under 35 U.S.C. §102(b) as being anticipated by Kolin.

Claim Rejections Under 35 U.S.C. §103

Claims 6, 11 and 15-16 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kolin in view of U.S. Patent No. 3,757,773 to Kolin ("Kolin '773").

Claim 2 is rejected under 35 U.S.C. §103(a) as being unpatentable over Kolin '083 in view of U.S. Patent No. 5,381,790 to Kanesaka ("Kanesaka").

Claims 12-13 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kolin '083 in view of Kolin '773 as applied to claim 11 above and further in view of Kanesaka.

Both Kolin '773 and Kanesaka '790 are directed to a completely different context with a different set of issues. They both disclose catheters for deploying electrodes at their distal end, not for introducing fluid thereto. The use of the guide tube of Kolin '773 or guidewire of Kanesaka '790 or the withdrawal of either of them does not lead to the possibility of fluid jetting out of a distal end.

In any case, as presented above, independent claims 1 and 7 are believed allowable. Therefore all dependent claims, including claims 6, 11 and 15-16 are also believed allowable.

Reconsideration is respectfully requested of the rejection of claims 6, 11 and 15-16 under 35 U.S.C. §103(a) as being unpatentable over Kolin in view of U.S. Patent No. 3,757,773 to Kolin ("Kolin '773").

Claim Rejections Under 35 U.S.C. §101

Claims 1-3 and 11-14 are rejected under 35 U.S.C. §101 as claiming the same invention as that of claims 1, 9 and 10 of prior U.S. Patent No. 6,052,612.

Independent claims 1 and 7 and therefore all dependent claims are being amended and do not have identical scope as any of the claims of prior U.S. Patent No. 6,052,612.

Claims 1, 4, 8-11 and 15-17 are rejected under 35 U.S.C. §101 as claiming the same invention as that of claims 1, 15 and 11 of prior U.S. Patent No. 5, 857,464.

Independent claims 1 and 7 and therefore all dependent claims are being amended and do not have identical scope as any of the claims of prior U.S. Patent No. 5,857,464.

Reconsideration is respectfully requested of the rejection under 35 U.S.C §101.

Double Patenting Rejection

Claims 1-17 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-16 of U.S. Patent No.6,052,612 to Desai (“‘612”), claims 1-15 of U.S. Patent No. 5,857,464 to (“‘464”) as well as claims 1-8 of U.S. Patent No. 6,701,180 to Desai (“‘180”).

A terminal disclaimer is being submitted to obviate the nonstatutory obviousness-type double patenting.

Conclusion

Accordingly, it is believed that this application is now in condition for allowance and an early indication of its allowance is solicited. However, if the Examiner has any further matters that need to be resolved, a telephone call to the undersigned at 415-276-6543 would be appreciated.

FILED VIA EFS

Respectfully submitted,

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Date

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